



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,613	03/29/2001	Ian Anthony Jones	Q90170	3061
23373 7590 05/28/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER ELVE, MARIA ALEXANDRA				
ART UNIT		PAPER NUMBER		
3742				
MAIL DATE		DELIVERY MODE		
05/28/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

09/806,613

**Applicant(s)**

JONES ET AL.

**Examiner**

M. Alexandra Elve

**Art Unit**

3742

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-8, 10, 13-21, 26, 27, 29, 30 and 62-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8, 10, 13-21, 26, 27, 29, 30 and 62-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ ~~Notes of Informal Patent Application~~
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Muellich (USPN 5,893,959).

Muellich discloses a workpiece composed of at least two parts (7, 8) of plastic, preferably a thermo-plastic, welded together by laser beams (11) along a joining zone (10).

Applicant's claim recitations regarding the method of forming a product, relate only to the method of producing a part of the claimed product, which does not impart patentability to the product claims. Note that determination of patentability on the product itself, In re Brown 173 USPQ 685, 688 and In re Fessmann 180 USPQ 324, and the patentability of a product does not depend on its method of production, In re Pilkington 162 USPQ 145, 147; see also In re Thorpe 227 USPQ 964 (CAFC 1985).

Note that it is Applicant's burden to prove that an unobvious difference exists, In re Marosi 218 USPQ 289, 292-293 (CAFC 1983), and Applicant must show that different methods of manufacture produce articles having inherently different characteristics, *Ex parte Skinner* 2 USPQ 2d 1788.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-8, 10, 13-20, 26-27, 29, 62 & 68-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corrsin (USPN 3,477,194) in view of Andrus et al. (USPN 5,093,147).

Corrsin discloses the sealing of thermoplastic thin materials using infrared radiation and a carbon material in between the materials. The carbon substance is printed onto a board, which is faced or overlaid with a thermoplastic material. Additionally, carbon may be printed on to a film. The coating and film are welded throughout the area overlying the infrared absorbing material or films may be welded together. Absorbers may also be in form of inks (functional equivalent of a dye). Lamps or carbon dioxide lasers can be used. An absorber can be a visually transparent radiation absorber that is selective to radiation in a certain range of wavelengths.

Specifically two transparent films or substantially transparent films are sealed together by employing a substantially visually transparent radiation absorber which selectively absorbs radiation in a wavelength range to which the films are transparent, thus causing a concentration in heat in areas where such absorber has been applied and thereby effecting sealing.

Corrsin discloses ink but not specifically a dye.

Andrus et al. discloses an organic dye (ink), which is highly absorptive of radiation in the near infrared range of 750 to 900 nm. Invisible inks may be used and laser dyes, which absorb in the IR range. For invisible inks, the dye should have a low absorption in the visible range of the spectrum. Inks may be used in a clear ink vehicle (a carrier). Over the visible range, absorption is the highest (over 700nm) and for the dyes absorption is in the range of 760 to 830 nm.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use an organic dye (ink) as taught by Andrus et al. in the Corrsin system because it is merely a variant of ink (dye) types.

Claims 2-8, 10, 13-20, 27, 29, 62 & 67-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muellich (USPN 5,893,959) in view of Andrus et al.

Muellich discloses the welding of thermoplastic materials using a laser beam. The transmission coefficient is used in the formation of a bond. Workpieces may be opaque, colored with dye or transparent. Dyes are contained within plastics (carrier). After welding, the individual workpiece parts are substantially no longer distinguishable

by the human eye. The proportions of the workpiece parts are joined in the visible region and dye pigment may be used for joining. Wavelengths of 1.06  $\mu\text{m}$  may be used.

Muellich discloses a dye but not an organic type of dye.

Andrus et al. discloses an organic dye (ink), which is highly absorptive of radiation in the near infrared range of 750 to 900 nm. Invisible inks may be used and laser dyes, which absorb in the IR range. For invisible inks, the dye should have a low absorption in the visible range of the spectrum. Over the visible range, absorption is the highest (over 700nm) and for the dyes absorption is in the range of 760 to 830 nm.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use an organic dye (ink) as taught by Andrus et al. in the Muellich system because it is merely a variant of ink (dye) types.

Claims 63-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corrsin and Andrus et al., as stated in the above paragraph and further in view of Osborne (USPN 4,069,080).

Corrsin does not specifically teach the use of fabrics/textiles, polyester, fluoropolymer and so forth.

Osborne discloses bonding superposed sheets of polymeric material. A CO<sub>2</sub> gas laser is used for welding the plastic materials, as the energy in the beam generated by the laser has wavelengths that are readily absorbed in the thermoplastic materials such as copolymers of vinyl chloride and vinylidene chloride and so forth. It would have been

obvious to one of ordinary skill in the art at the time of the invention to sheet material, thermoplastics and so forth because this is merely a design substitution.

The types of materials chosen are a choice in design and substitutions of known equivalent structures may be made. In re Kuhle 188 (CCPA 1975) and In re Ruff 118 USPQ 343 (CCPA 1958). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fluoropolymer because it is a polymeric substitute.

Claims 26, 30 & 63-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muellich and Andrus et al., as stated in the above paragraph and further in view of Osborne.

Muellich does not specifically teach the use of fabrics/textiles, thin films, polyester, fluoropolymer or thermoplastics.

Osborne discloses bonding superposed sheets of polymeric material. A CO<sub>2</sub> gas laser is used for welding the plastic materials, as the energy in the beam generated by the laser has wavelengths that are readily absorbed in the thermoplastic materials such as copolymers of vinyl chloride and vinylidene chloride and so forth. It would have been obvious to one of ordinary skill in the art at the time of the invention to sheet material, thermoplastics and so forth because this is merely a design substitution.

The types of materials chosen are a choice in design and substitutions of known equivalent structures may be made. In re Kuhle 188 (CCPA 1975) and In re Ruff 118 USPQ 343 (CCPA 1958). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fluoropolymer because it is a polymeric substitute.

***Response to Amendment***

Applicant's amendment (3/10/09) overcomes the new matter objection.

***Response to Arguments***

Applicant's arguments filed 3/10/09 have been fully considered but they are not persuasive.

Applicant argues that the Examiner has not responded to Applicant's arguments of 8/7/08. The examiner respectfully disagrees; see Final Rejection 12/24/08 beginning on page 8.

Applicant argues that Corrsin does not teach visually transmissive after welding. The examiner notes that Applicant's claim language is open and hence does not require all parts of the weld joint to be visually transmissive.

Applicant argues that there is not explicit teaching in Corrsin as to whether "substantially visually transparent" is referring to the pre-welding condition of the absorber or the condition of the absorbed after welding. The examiner reads the prior art in the broadest possible way and it is the position of the examiner that "substantially visually transparent" applies at all times during the process.

Applicant argues that Corrsin does not teach a dissolved dye. The examiner respectfully disagrees because Corrsin discloses a carbon suspension in a film, which



meets applicant's claim language of dye dissolved in a carrier (as per applicant's specification dye in a tape).

In response to applicant's argument that Andrus is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Andrus discloses different inks and dyes and Corrsin uses an ink in plastic welding.

In response to applicant's argument that there is no suggestion to combine the references (Corrsin and Andrus), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Corrsin states an ink in plastic film which is welded and Andrus discloses different types of inks and dyes.

Applicant argues that Andrus does not teach welding of plastic workpieces. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Andrus dyes fluoresce and hence would not result in a weld. The examiner respectfully notes that the rejection is over Corrsin in view of Andrus. Corrsin discloses the welding of the plastic material with a carbon (ink) suspension. Andrus discloses dyes and inks compositions. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Muellich does not teach visually transmissive. The examiner respectfully disagrees because Muellich discloses transparent plastics and a weld joint which is "no longer distinguishable by the human eye", that is, it blends with the transparent plastic.

Applicant argues that Muellich does not teach a dissolved dye. The examiner respectfully disagrees because Muellich discloses a dye in the plastic, which meets applicant's claim language of dye dissolved in a carrier (as per applicant's specification dye in a tape).

In response to applicant's argument that Andrus is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case,

Andrus discloses different inks and dyes and Muellich uses a dye in plastic which is welded.

In response to applicant's argument that there is no suggestion to combine the references (Muellich and Andrus), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Muellich states a dye in a plastic which is welded and Andrus discloses different types of inks and dyes.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 7:30-4:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 25, 2009.

/M. Alexandra Elve/  
Primary Examiner, Art Unit 3742